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No Oasis in the Desert: Identification and Implications of the Food Desert around an Urban Ohio Hospital

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No Oasis in this Desert:
Identification and Implications of the Food Desert around an Urban Ohio Hospital

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Introduction

Montgomery County, Ohio's diabetes prevalence outpaces the nation, and the incidence of adult obesity approaches 1/3. [1,2,3]

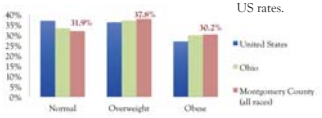
Access to healthy food in the impoverished neighborhood surrounding Dayton's Good Samaritan Hospital, the site of the Family Medicine residency, is important when educating about health lifestyle.

Purpose: To determine whether the area was a food desert and to evaluate the implications of the label.

Prevalence of Type 2 Diabetes mellitus

Figure 1. 2011 diabetes rates (left) with health disparity between White and Black in Montgomery County.

Body Mass Index rates by category



BMI (below) in Montgomery Co and Ohio outpace US rates.

Methods

- **Database search**
  Review of current literature (2009-2014) using Web of Science database and search term "food desert".
- **Other sources considered**
  Additional references considered in this narrative review include sources outside the date range, but which were referenced in reviewed papers.[4]
- **Food Atlas Search**
  The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) maintains a Food Access Research Atlas, searchable by address.
- **Community sources accessed**
  Multiple stakeholders are researching the Dayton food system, and they provide unique insights into the current environment.

Results

How a census tract qualifies as a food desert

Low Income
More than 20% in poverty

Low Access
More than a half mile from a supermarket

Low Vehicle Access
More than 100 households without vehicle access

Supermarket Presence
Existence of stores with more than $2 million in annual sales of food including produce, meat, dairy, dry or packaged foods, and frozen foods. In the area surrounding Good Samaritan Hospital, examples of stores meeting this definition include Kroger and Save A Lot.[5,6]

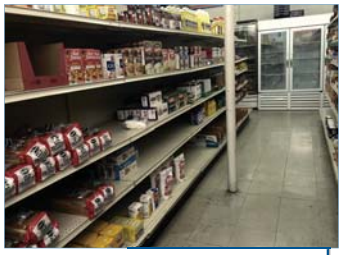


Figure 3. (Above) The grocery offerings inside a nearby market feature simple carbohydrates and no produce.

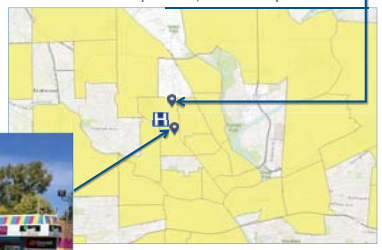


Figure 2. (Above) *USDA ERS Food Access Research Atlas.* 🏥 Good Samaritan Hospital. The yellow shading represents census tracts with Low Income, Low Access, and Low Vehicle Access.[5,6,7]

Figure 4. (Above) Good Samaritan Hospital and the local market in its shadow. Both lie in a census tract designated as a food desert.

Figure 5. (Left) Inside AM PM Market. Between soda and ice cream choices, a limited selection of healthy options is displayed. The produce shows signs of age.

It's not just access: quality and affordability matter[7,8,9]

Supermarkets ($)
Quality and affordable food, but spread far apart

Local Markets
Limited selection of healthy options at high prices

Convenience Stores
Quick access to calorie-dense, nutrient-poor foods

Restaurants ($$$)
Plentiful, but few healthy or affordable options

Price ↓ Nutrition ↑

Do food deserts matter?

Adding grocery options in a food desert may not improve fruit and vegetable consumption nor BMI.[10]

On average, Supplemental Nutrition Assistance Program (SNAP) "participants lived 1.8 miles from the nearest supermarket but traveled 4.9 miles to the foodstore they most often used".[11]

Federal policy makers consider the current food desert research to be inconclusive, and they question the importance of food desert mapping.[11]

Local efforts

Young professional group UpDayton work to improve food access education by developing the Food Finder (Figure 6). Their map and listings account for typical grocery stores, markets, convenience stores, specialty stores, and farm-based options.[12] So far the focus has not been on the neighborhood including Good Samaritan Hospital (🏥).

Figure 6. From the Dayton Food Finder.

Conclusions

- The implications of food deserts on diseases commonly seen by family physicians, including diabetes and obesity, are complex and may be part of the multifactorial causes of those diseases.
- Physicians should consider food access, affordability, and quality when working with patients to develop plans for improving food choices.
- Improved health literacy is essential to changing eating habits, and focusing solely on improving food access will not solve the problem.
- Food access in a defined food desert may still be adequate, despite the potential limitations of distance and vehicle access.

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